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The Mutualism of Strategic Environmental Assessment and Sustainable Development Goals

Abstract

The Sustainable Development Goals (SDGs) set a universal agenda intended to stimulate social, economic and environmental action. Strategic Environmental Assessment (SEA) has the potential to assist in the implementation of actions supporting the SDGs by providing a systematic framework to incorporate them into policies, plans and programmes; and the SDGs in turn, could substantiate SEA's contribution to sustainable development. Therefore, the partnering of both policy instruments fosters a mutualistic relationship, benefiting both. In this paper, we review current engagement of SEA with the SDGs both in the academic literature and in practice. The findings reveal a recognisable subtle shift towards the adoption of a new paradigm in plan-making, particularly supported by governments' growingly proactive embracement of SDGs, albeit through different approaches, initiatives and commitments. This sets a robust foundation for spatial planning and, by extension, a reference framework for SEA. Nevertheless, operationalising the SDGs is difficult. The extent to which SDG objectives and targets are embedded in SEA and, indeed, integrated into plans/programmes seems to be hampered by the broad scope of both sustainability and SEA, and a general lack of awareness and know-how. This suggests a need to clarify SEA's mandate for engaging with the SDGs, as well as to provide training for a more proactive integration of the objectives and targets. Through initiatives such as these, there are opportunities to optimise mutual gains for both policy instruments.

Keywords: Sustainable development, impact assessment, mutual benefits; SDGs; SEA; spatial planning.

1. Introduction

The United Nations (UN) General Assembly's resolution 'Transforming our world: the 2030 Agenda for Sustainable Development' presents an important milestone in providing for a shared global vision towards sustainable development for all (UN, 2015). In this resolution, 17 integrated and indivisible Sustainable Development Goals (SDGs) and associated 169 targets are set, which balance the three dimensions of sustainable development: environmental, social and economic¹. Whilst questions about this "balancing" act have long been raised (see e.g. Gibson, 2006), this "win-win-win" influential aphorism is being increasingly challenged, due to the magnitude of the ongoing global environmental and climate crises (Washington et al., 2017; Pichler et al., 2017). Notwithstanding this, the SDGs still set a universal agenda that is anticipated to stimulate action over the next 15 years in areas of critical importance for humanity and the planet (UN, 2015); and one "family of tools" that has the potential to assist with this endeavour is that of impact assessment (Ness et al., 2007; Hacking, 2018; Morrison-Saunders et al., 2019; IAIA, 2019).

Broadly speaking, impact assessment is widely viewed and accepted as a "front line" instrument for sustainable development (Sadler, 1996; 1999), with the discourse around its use pre-dating the SDGs (Hacking, 2019). Efforts to mainstream sustainability considerations into established impact assessment tools have indeed been promoted, for example, through sustainability assessments (Morrison-Saunders and Pope, 2013); and enhanced, for example, through the consideration of gender and health aspects in environmental and social impact assessments (Walmsley and Ofosu-Koranteng, 2017) or through the use of life cycle assessments to assess

¹ <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

biodiversity impacts of water consumption (Dober et al., 2019). Among strategic forms of impact assessment, Strategic Environmental Assessment (SEA) supposedly has a clearer role to play, given its objective to provide for a high level of protection of the environment through the integration of environmental considerations into the preparation and adoption of policies, plans and programmes with a view to promoting sustainable development, as reflected in the so-called European SEA Directive (EC, 2001) and the SEA Protocol (UNECE, 2003). Many scholars have identified ways in which SEA, in particular, and impact assessment in general, can affect and influence action. For example, by empowering stakeholders, increasing transparency, accountability and democracy, and promoting intergenerational equity (Bartlett and Kurian, 1999; Bond et al., 2012; George, 1999; Sadler, 1996, 1999; Stinchcombe and Gibson, 2001); these are features which can all be likened to ideologies of sustainable development. However, the extent to which these features represent substantive sustainable development outcomes or the result of an increased awareness about alternative scientific paradigms, such as the development of civic science underpinning wider environmental management practices, has been questioned (Cashmore et al., 2004; O’Riordan, 2001). Current practice limitations, set policy and planning agendas, and the legislative framework lacking sufficient ‘teeth’ to influence plan-making have also been repeatedly reported as barriers to SEA’s contribution to more environmentally robust decisions (e.g. González et al., 2019; Retief et al., 2008; Sadler and Dusik, 2016). Questions have also been repeatedly raised about the extent to which SEA in particular can foster sustainable development in its current form and as evidenced by practice (e.g. Bina et al., 2011; Dalal-Clayton and Sadler, 2017; Partidario, 2015); and address “the integration challenge” by facilitating the use of systems thinking, by engaging in strategic foresight studies and by having the ambition to change politically institutionalised and established arrangements (i.e. substantive, organisational and procedural) (Nilsson and Persson, 2017). As noted by the Stockholm Environment Institute (Weitz et al., 2019, p.8), to date, systems thinking in support of policy integration and coherence “has rarely been applied to guide SDG implementation”.

Within this context, developing clearer and more intentional links between SEA and the SDGs could help substantiate SEA’s contribution to sustainable development, while assisting with the implementation and informing action in support of the 2030 Agenda. While such links have also been advocated by some for furthering sustainability assessments (e.g. Hacking, 2019), it is SEA’s legal mandate and footing in a number of countries, as well as its institutional, political and societal reach that gives the environment centrality, providing for a stronger approach to environmentally sustainable development, and in turn, opportunities for mutualistic gains between SEA and the SDGs, and for addressing more effectively resource use and dangerous environmental and climate change. This paper aims to therefore, explore the mutualistic relationship between SEA and the SDGs, as reflected in the academic literature and in spatial planning practice. In this study, mutualism is used to explore SEA’s role in facilitating the achievement of the SDGs by looking at, for example, the potential for mutual enhancement opportunities or for pursuing synergies in a more systematic manner.

2. Acknowledging the Potential for Mutualism

Recognising that both SEA and SDGs are facultative (i.e. they can perform on their own to achieve their purpose) rather than obligate mutualists (where one cannot perform without the other), recent developments in policy and spatial planning frameworks support a strong case to be made for a mutual gain between the SEA tool and the SDG initiative, where SDGs define the ‘ends’ and SEA can provide the ‘means’. In a recent review of environmental impact assessment legislation, for example, the UN Environment Programme (UNEP, 2018) underscores the importance of SEA and Environmental Impact Assessment (EIA) in achieving the 2030 Agenda

for Sustainable Development (UN, 2015) and the Strategic Plan for Biodiversity (CBD, 2010). SEA has also been acknowledged to be a primary instrument “for designing and implementing national development plans and programmes that are best aligned to support the recently adopted sustainable development goals” (Mukherjee and Rajvanshi, 2016, p. 17). Further, it has been advocated as “an instrument of change towards more sustainable patterns of behaviour and development, by following strategic thinking and constructive approaches” (Partidario, 2015, p. 1), with a more robust information base for policy making, planning and programme development (Stinchcombe and Gibson, 2001). More recently, the International Association for Impact Assessment (IAIA) has claimed that: “on the one side, SEA and other legislated impact assessment tools can play a crucial role in mainstreaming sustainability considerations in development planning and decision-making; on the other, applying SDG targets will help make impact assessment more objectives-driven, rather than process- or impacts-oriented, and will increase its relevance as a planning foundation for development plans and project decisions” (IAIA, 2019). While SEA legislation and framing predate the SDGs, resulting in only a partial alignment of the sustainability intentions and framing of these policy instruments, as Hacking (2019, p. 3) argues: “if the SDGs are accepted as setting the sustainability agenda, and the aim of [SEA] is to direct decision-making towards sustainability, it would seem appropriate to seek to align this commonality of purpose”.

The application of SEA to drive sustainable development has been extensively discussed and examined in the literature. Broadly speaking, SEA is fulfilling its role at integrating environmental considerations into plan-making (e.g. EC, 2019), and it can also serve a number of purposes in support of aiding planning- and decision-making for sustainable development (Sadler and Verheem, 1996; Stinchcombe and Gibson, 2001; Therivel, 2004; Therivel and Minas, 2002). These include: 1) integrating the substantive SDG issues into decisions-making; 2) providing a formal, legitimate, systematic and logical framework for doing so, with SEA acting as the link between SDGs and the decisions at hand; and 3) offering an implementation framework for monitoring and auditing - which can, in a situation where resources are scarce, facilitate the efficient mainstreaming and streamlining of two key globally acknowledged policy instruments (i.e. SDGs and SEA). Arguably, these purposes also set out where the opportunities for synergism and mutual enhancement lay, including policy, institutional and procedural integration challenges (Nilsson and Persson, 2017).

Firstly, the SDGs include direct SEA-relevant considerations reflecting the wider scope of SEA as laid out in the EU Directive (EC, 2001) and supporting guidance, such as the determination to address decisively the threat posed by climate change (e.g. EC, 2013; ODPM, 2005); to protect biodiversity, ecosystems and wildlife (e.g. EC, 2013; OECD, 2006); tackle water scarcity and water pollution, and to promote resilience and disaster risk reduction (e.g. OECD, 2006). SDG targets particularly relevant to spatial planning SEAs also include: provision of universal access to affordable, reliable, sustainable and modern energy services, sustainable transport systems, and quality and resilient infrastructure, amongst others. By integrating the above considerations, as relevant, SEA can help attain SDGs at national and local level through the promotion of informed and sustainability-driven strategic sectoral decisions.

Secondly, SEA can help tackle some of the issues identified in the delivery of the Millennium Development Goals (MDGs), superseded by the SDGs, and better support the achievement of the SDGs. While performance studies show that the MDGs were in some quarters successful (e.g. in helping to lift more than one billion people out of extreme poverty, in making inroads against hunger, in enabling more girls to attend school), this success was unevenly distributed, with geographical, societal and gender inequalities persisting (UN, 2015). The evidence-basis of the MDGs and the extent to which they addressed environmental sustainability were also questioned (Deneulin and Shahani, 2009; Kabeer, 2010); as were a number of other elements

relating to the process for achieving and delivering the MDGs, such as the degree to which the process was participatory, accountable and monitored, and the level of political will and ownership to implement the goals (McArthur and Sachs, 2005). It is generally agreed that SEA can provide a methodological framework that helps enhance the evidence basis in support of decision-making, making the process more rigorous, transparent, accountable and participative (González et al., 2019; Lobos and Partidario, 2014; Noble et al., 2012; Nilsson and Dalkmann, 2001). SEA does therefore possess the properties, principles and technical requirements that could help mitigate the challenges experienced in the delivery of the MDGs, and potentially facilitate the achievement of the SDGs by developing a mutualistic relationship with the SDGs on the one hand, and with policy- and decision-making processes on the other, particularly if supported by strategic, policy-driven, forward looking and proactive approaches (Hacking and Guthrie, 2008; Partidario, 2015; Morrison-Saunders et al., 2019).

Thirdly, SEA provides a legal framework (e.g. Article 10, EC, 2001) for monitoring and auditing the achievement of SDGs, where embedded into the monitoring programme, while SEA effectiveness can be enhanced by the more explicit and formal goals, targets and indicators from the SGD framework, which can discipline and bound SEA objectives. This reference frame from where SEA objectives will derive can, in turn, help with the current ‘absence’ of monitoring implementation. While monitoring 169 objectives and 232 indicators presents significant resource, data and statistical challenges (McFeely, 2017) and the need to integrate specialisations (Morrison-Saunders et al., 2019), it is anticipated that the global initiative will mobilise governments, researchers and the general public (e.g. through citizen science) to monitor the achievement of these targets – as it can already be seen in a number of funding calls aligning with the SDGs (e.g. ‘Make Europe Sustainable For All’² or the Canadian SDGs Funding Program³). Initiatives such as these can provide a framework for coherent, consistent and committed monitoring measures that can indeed deliver data and information useful for both policy instruments. If built upon the requirements of SEA monitoring, then these initiatives can deliver a necessary framework to “better align data availability and decision-making cycles” (McFeely, 2017, p.48).

To operationalise and implement the SDGs, six discrete transformations have been proposed, each contributing to multiple SDGs, that are to be adapted to country contexts – relating to governance structures, environmental challenges and development levels (Sachs et al., 2019). They include: (1) education, gender and inequality; (2) health, well-being and demography; (3) energy decarbonization and sustainable industry; (4) sustainable food, land, water and oceans; (5) sustainable cities and communities; and (6) digital revolution for sustainable development. These transformations could help ensure progression towards sustainability and clarify SEA’s mandate in terms of its “comprehensiveness”, “integratedness” and “strategicness” (Hacking, 2019; Hacking and Guthrie, 2008). Sachs et al. (2019, p. 811) offer that “the six transformations require deep, deliberate, long-term structural changes in resource use, infrastructure, institutions, technologies and social relations”, some of which can, arguably, be channelled through SEA. SEA can be particularly instrumental in managing competing land-uses that are pertinent to transformations 3, 4 and 5, especially in the context of spatial planning. It can also facilitate policy coherence needed across sectors, plan-making and decision levels through time. If performed well, it can ensure that processes and decisions are transparent and participatory; and allow defining and implementing time-bound targets and benchmarks, while mobilising data

² <https://makeeuropesustainableforall.org/>

³ <https://www.canada.ca/en/employment-social-development/services/funding/sustainable-development-goals.html>

gathering and monitoring efforts to track progress. It is worth noting that other approaches to condensing the SDGs to facilitate their implementation exist and with varying focuses. The approach by CISL (The University of Cambridge Institute for Sustainable Leadership), for example, identifies six themes to support businesses, governments and financial institutions to promote a sustainable economy (CISL, 2015); the OECD identifies eight building blocks to enhance policy coherence for SDG implementation (OECD, 2018); and the World Business Council for Sustainable Development (WBCSD) identifies six transformations through which innovative business solutions, cooperation and valuations can help put the SDG ambitions into action (WBCSD, 2019).

To develop a more thorough understanding of the links between SEA and the SDGs, their relationship is explored further by looking at the extent to which SEA scholars and practitioners have engaged with the SDGs and reflected upon impact assessment's role in supporting their delivery. This is done by reviewing the literature and spatial planning practice. Subsequently, the findings are analysed and existing barriers and opportunities are identified. Recommendations for optimising the mutualistic opportunities between SEA and the SDGs are then suggested.

3. Reviewing the Engagement of SEA with SDGs – Methods and Results

Recent publications are starting to acknowledge the importance of SEA and more broadly of impact assessment in supporting the achievement of the SDGs. To explore the extent to which the impact assessment community has reflected upon SEA's, or more in general, impact assessment's role in delivering the SDGs in "theory" and in practice, a systematic review of the published academic literature and of spatial planning SEA practice was conducted. Subsequently, the findings are presented.

3.1. Engagement of Impact Assessment with SDGs as Portrayed in the Academic Literature

The systematic review of the published academic literature was based on Google Scholar's web search engine of full text and metadata of scholarly literature published in the English language. This search engine was chosen for its ease of use, but more importantly because it facilitates the use of snowballing as it finds other articles related to the relevant keyword or document searched for, and it allows users to search for a wide range of materials, including academic articles and grey literature, which are relevant to the nature and scope of the impact assessment literature. The search used the following keywords: 'SEA' or 'Strategic Environmental Assessment' or impact assessment in its various denominations; 'Sustainable Development Goals' or 'SDGs' (including SDG1, SDG2, SDG3, etc. or key terms that reflect the content of each goal, such as 'no poverty' for SDG1, 'zero hunger' for SDG2, 'good health and wellbeing' for SDG3, etc.). The search was conducted in July 2019 for each of the 17 goals as well as looking at the SDGs as a whole, noting the year of publication of the journal articles. This was done to distinguish publications that predated the SDGs (pre-2015) and might have still included reflections on the link between impact assessment and sustainable development in general or specifically with the MDGs, from publications that followed the launch of the SDGs, thus post-2015.

The findings identified 97 published academic sources that either focused on or explored, to different extents and from different perspectives, the relationship between impact assessment and sustainable development. Of these, 40 were published post-2015 and explicitly referred to the SDGs, of which only two papers were published in the main and specialist impact assessment journals of *Impact Assessment and Project Appraisal* (IAPA), *Environmental Impact Assessment Review* (EIAR), and the *Journal of Environmental Assessment and Policy Management* (JEAPM).

These two papers are Dorber et al. (2019) and Hacking (2019), published in EIAR and IAPA, respectively. Another 38 papers were published in a range of journals, with the journal of *Sustainability* showing to be overall the preferred platform for dissemination of SDG-related research; though it is worth noting that papers covering SDGs that have a very specific focus were published in specialist journals (e.g. *Marine Policy* was the journal with the highest number of articles covering SDG14 – life below water, *Energy Policy* was the main outlet for research covering SDG7 on affordable and clean energy, and *Health Policy* for SDG3 – good health and well-being). Prior to the launch of the SDGs, the search identified 19 outputs disseminated through the three main impact assessment journals, published from the early 1990s up to 2015.

Albeit to different degrees, all of the SDGs have been explored from an impact assessment perspective in the 40 articles published post-2015, with the exception of SDG4 – quality education; though the majority of the articles looked at either multiple SDGs or at the SDGs as a whole. Equally, the level of focus on impact assessment also varied, with only 13 of the published sources explicitly focussing on impact assessment and on its role in delivering the SDGs, while the remainder only mention impact assessment as a tool for delivering the SDGs among many others tools. In terms of type of impact assessment, the articles revealed an equal interest in project level EIA and in strategic level assessments, particularly SEA and Sustainability Assessments, with Life Cycle Assessment (LCA) also featuring highly. Other forms of impact assessment covered in the literature reviewed included Social Impact Assessment, Gender Impact Assessment, Health Impact Assessment, Poverty Impact Assessment, Climate Impact Assessment, and Peace and Conflict Impact Assessment, but only in relation to specific SDGs. SEA in particular, featured in articles that covered the SDGs as a whole, and in articles that covered those SDGs that have a broader and perhaps more strategic focus, such as SDG11 – sustainable cities and communities and SDG17 – partnerships.

Overall, the systematic review of the literature conducted in July 2019 shows that while the impact assessment academic community does engage with sustainable development and acknowledges impact assessment's potential to deliver sustainable development, there has been little engagement to date with the SDGs in particular. The limited engagement with the SDGs is particularly reflected in the lack of published case-studies reflecting impact assessment practice or theory, as shown in the limited number of research published in the three impact assessment specialist journals, post-2015. By contrast, publications of a more technical nature engaging with specific SDGs appear to be increasing in other journals, post-2015, indicating that perhaps, there is a greater level of interest and of debate about how to best deliver the specific SDGs through impact assessment in more niche academic communities, reflecting also more niche areas of practice. The IAIA, which represents the leading global network of professionals and scholars involved with impact assessment who disseminate leading research through its journal of IAPA, has recently produced its own tips (fasTIPs #19) on how different forms of impact assessment can help achieve SDG targets (IAIA, 2019). It might well be possible that the IAIA's leadership will help guide future research on the SDGs from its academic and professional membership, as illustrated for example by a recent publication in its journal of a paper reflecting on impact assessment's potential to be a major vehicle for delivering the SDGs (Morrison-Saunders et al., 2019).

3.2. Engagement of SEA with SDGs as Portrayed in Spatial Planning Practice

An examination of SEAs of spatial land-use development plans across Ireland, Italy and Kenya was undertaken to explore the current level of engagement between SEA and SDGs in practice. Acknowledging that SDGs are not solely addressed through spatial planning (i.e. there are other

means of implementation, such as direct provision of financial resources and capacity building), it can serve as a strong vehicle to instigate the achievement of many SDG targets, particularly those relating to socio-economic development (for example, to equal and affordable access to services, infrastructure, housing, tourism and green areas) and environmental protection. In turn, SEA presents a critical tool to mediate sustainability considerations into spatial planning, and the bulk of SEA practice worldwide relates to spatial land-use plans (González, in press; Hanusch et al., 2016). For the aforementioned reasons, this review focuses on the engagement of spatial planning SEAs with SDGs in current practice, but it is intended to be an exploratory rather than a definite review.

The selection of the countries is dictated by the authors' experience; their familiarity with relevant planning systems and mother tongue facilitated both the search and the review of relevant documents. The authors acknowledge that these case studies are not necessarily representative of current good practice, but illustrative of most recent progress towards engaging with the SDGs in these jurisdictions, where that is the case.

Ireland

In Ireland, the Government published in 2018 the SDGs National Implementation Plan (Gol, 2018a), which sets ministerial responsibilities and commitments to report on each SDG 2030 target. A policy within the plan has led to the creation of a National Stakeholder SDG Forum to guide and drive the achievement of the goals at national level. Progress is reported through a dedicated online portal⁴, and a Voluntary National Review (VNR) was undertaken in 2018⁵, to be followed by VNRs in 2022, 2026 and 2030.

While a number of action plans target specific SDGs (e.g. Climate Action Plan – Gol, 2019; National Biodiversity Action Plan – Gol, 2017), the SDGs National Implementation Plan sets a broader framework for all policy instruments and spatial plans in Ireland to proactively engage with SDGs. This engagement is apparent in the recently published National Planning Framework (NPF), which includes a dedicated section on SDGs where it is stated that “There is significant alignment between the UN SDGs and the National Planning Framework’s National Strategic Outcomes in areas such as climate action, clean energy, sustainable cities and communities, economic growth, reduced inequalities and innovation and infrastructure, as well as education and health” (Gol, 2018b, p. 19). Nevertheless, and interestingly, the inclusion of this section was a result of the NPF SEA consultation. The SEA Environmental Report promotes sustainable development as an integral part of the NPF, but it does not make specific reference to SDGs. In contrast, the SEA Statement notes that: “Many submissions proposed that the overarching objective of NPF should be to create a framework for sustainable growth and development (i.e. economic, social and environmental sustainability). They suggested a reference to the United Nations Sustainable Development Goals (UN SDGs) be included” (Gol, 2018c). Therefore, despite the aforementioned framework, it was the SEA consultation that drove the clear integration of SDGs into the final plan.

The NPF is to be implemented through Regional Spatial and Economic Strategies (RSES), which subsequently inform and shape county and city development plans. The Eastern and Midlands Regional Assembly’s RSES is the only regional strategy published at the time of writing (EMRA, 2019). The strategic vision of the RSES recognises its alignment with SDGs from the onset,

⁴ <https://irelandsdg.geohive.ie/>

⁵ <https://irelandsdg.geohive.ie/app/3e6201e7c886420ebd6cba15671a7bdf>

embedding key sustainability principles in many of its policies and actions. For instance, primary areas for action include: “sustainable development patterns which promote compact growth, reduce transport demand and encourage low carbon transport modes”, “overcome barriers to better mobility be they political, economic or physical such as poverty, disability, affordability or gender”, or “promote equality of access to and engagement with arts and cultural services” (EMRA RSES, 2019, p. 23, 185, 217 respectively). It is unclear whether these actions were driven by compliance with higher planning policies (e.g. NPF) or the SEA process itself. At local planning level, sustainability considerations remain broad. Monaghan County Development Plan 2019-2025 (Monaghan County Council, 2019) presents the most recent local area plan at the time of writing. While the SEA Environmental Report refers to sustainable development provisions, there is no reference to SDGs. This is also the case in the plan, which makes reference to ‘Our Sustainable Future: A Framework for Sustainable Development for Ireland 2012’, incorporating sustainability considerations into its policies and vision, but without any mention of the SDGs National Implementation Plan. This hints to a disconnect between plan-making authorities with regards to the definition of sustainability policies and the integration and achievement of SDGs.

Italy

In Italy, the Ministry for the Environment and for Territorial and Maritime Protection (MATTM, 2017) developed and approved in 2017 a National Strategy on Sustainable Development (NSSD), as required by law 221/2015 (Republic of Italy, 2015). It essentially ratifies the Agenda 2030 strategy, and sets out a strategic programme for achieving the goals, while also outlining the benefits of a goal-oriented approach to planning. It determines that any plan revised or developed after the approval of the 2017 NSSD will need to comply with it. As a result, it now forms an explicit reference framework that any spatial plan SEA will need to consider when doing the compatibility of objectives assessment, or at any point of the assessment procedure. For instance, the Comune of Milano's SEA of the territorial governance plan update (Comune di Milano, 2018) explicitly states this. A similar approach was followed for the SEA of the new Sustainable Mobility Urban General Plan of the Comune of Taranto (Comune di Taranto, 2018) and the SEA of the Urban Waste Management Plan of the Umbria Authority for Water and Waste (AURI, 2018). The main mechanism through which the SDGs are being addressed in Italy is, therefore, through a goal-oriented approach, which requires plans to comply with the strategic goals set out at the national level as required by the NSSD, with the consistency of the strategic direction taken towards sustainable development ensured through SEA. Prior to the approval of the NSSD, the MATTM as a competent SEA authority, was nevertheless requesting and articulating in their written observations that proponents take account of both EU and national level documents implementing the UN's Agenda 2030. This occurred, for example, in the SEA for the proposed Direction Plan for Regional Mobility of the Campania Region (MATTM, 2017b, Observation n. 2.6).

Prior to the introduction of the SDGs and to the NSSD, evidence shows that some local authorities were trying to find ways to incorporate sustainable development in their policy plans, and are now trying to align pre-2015 plans to the SDGs. For example, the Comune di Bologna has a well-established reputation in the field of both environmental planning and sustainability planning (Gazzola and Caramaschi, 2005). Their Structural Plan (Comune di Bologna, 2008) was approved and adopted in 2008, predating therefore any explicit references to the SDGs and the national strategy, but it does include a number of goals that could be likened to the SDGs. As part of a wider project exploring Bologna's visions for sustainable development, a gap analysis was recently conducted and the 2008 Structural Plan's sustainability goals were

mapped against the 17 SDGs, with the findings used to inform a review of the 2008 plan and a re-alignment of the plan's goals to the SDGs (IEFE - Università Bocconi, 2018). To achieve alignment with the SDGs, Bologna is making use of other instruments as well, which include partnerships and action plans that target specific SDGs. Within the context set by the 2016 Covenant of Mayors, for example, Bologna has developed and approved two actions plans: Action Plan for Sustainable Energy, and Action Plan for Climate and Sustainable Energy, which comply with selected SDGs. In addition to this, the Comune of Bologna uses the ValSAT (territorial sustainability and environmental assessment procedure) and ecoBUDGET instruments (which aims to plan, monitor and improve use of environmental resources at the local level), to allow for the integration of the Agenda 2030 indicators in planning (and SEA, through the ValSAT) (Comune di Bologna, 2019; IEFE - Università Bocconi, 2018). While this is a leading authority in a very consciencious region (Gazzola and Caramaschi, 2005; Gazzola et al., 2011), this example nevertheless exemplifies how local authorities can be innovative in acting on the SDGs through other instruments whilst waiting for the next plan development or revision cycle.

Kenya

Kenya's commitment to sustainable development is reflected in the country's Constitution, which declares sustainable development a national value and principle of governance (GoK, 2010, Article 10(2)(d)). This commitment is further articulated in the Kenya Vision 2030 strategy, which aims to transform the country into an industrialised middle-income country whilst providing long-term development blueprint containing high level strategic policy context for implementing the SDGs (GoK, 2017). In 2016, the Kenyan Government also launched a roadmap for guiding the country's transition from the MDGs to the SDGs (GoK, 2016). The Kenya Vision 2030 is implemented at both national and sub-national levels through successive five-year Medium-Term Plans (MTPs) and County Integrated Development Plans (CIDPs), respectively; outlining government policies and actions to be implemented within each term (MD&P, 2017). Thus, the SDGs are mainstreamed at these two levels following plans- and objectives-led approaches, to guide formulation of lower level policies, plans and projects (GoK, 2018).

The current medium-term plan, being in its third cycle (MTPIII, 2018-2022), also informs the country's National Spatial Plan (NSP) 2015-2045 (GoK, 2015). The NSP provides a framework for addressing the spatial and environmental impacts from implementing the Vision 2030 flagship projects, serving to coordinate the development of national, regional, county, local and sectoral spatial plans, and their respective impact assessment procedures. Kenya monitors implementation of the SDGs through a National Integrated Monitoring and Evaluation System and County Integrated Monitoring and Evaluation Systems (outcomes-based), following a constitutional mandate (GoK, 2018).

The National Environmental Management Authority, mandated to protect Kenya's environment, published an environmental sustainability guideline for ministries, departments and agencies (NEMA, 2018). However, in reference to areas of audit and indicators, it does not mention SDGs, perhaps assuming that they have already been integrated into higher-level policy and planning documents. Although references to SDGs are found in lower level policy and planning documents, following the subsidiarity principle, variations in the integration of the SDGs exist in practice. For example, the Nairobi CIDP 2018-2022 (Nairobi City County, 2017) makes links to the SDGs via explicit references to the Kenya Vision 2030 SDG targets as outlined by the MTPIII and the NSP. The SEA report of the Masterplan for the development of a university town claims to deliver all the 17 SDGs, cross-referencing six SDGs, but without detailed

articulation of the delivery of the SDG targets (Diaspora University Trust, 2019). The Masterplan mentions considerations of articles 42 and 43 of the Kenya Constitution (i.e. rights to food, healthcare, housing, clean water, social security and education), echoing SDGs 2, 3, 4, 6, 10, 11 and 16 and explicitly stating compliance with SDGs 1, 3, 6, 7, 12 and 15. In an SEA scoping report for the Northern Kenya development Masterplan (Integer Ltd, 2015), no reference is made to either the MDGs nor SDGs although the initiative declares its aim to deliver Vision 2030. In yet another SEA report in the petroleum sector (GoK, 2016b), none of the five SEA objectives or terms of reference explicitly refer to SDGs. While the above examples make references to SDGs or more broadly to high level policy, such as Vision 2030, the extent to which the SEA supported planning and decision-making processes are contributing to the SDGs and delivering its associated targets in practice, is unclear, due to the lack of detail and of monitoring provisions.

A review into Kenya's progress in embedding the SDGs into the country's future development was conducted in 2017 by the Ministry of Planning and Devolution (MPD, 2017). Several challenges were identified, including the absence of baseline data for some of the indicators; inadequate capacity on SDG implementation, monitoring and reporting; gaps between national and local planning levels, with no clear modalities for engaging the large number of stakeholders in the preparatory process. In response to some of these challenges and to build capacity, the *"Urban Planning for City Leaders: A Handbook for Kenya"* (UN Habitat, 2018) was developed to empower those who play a critical role in urban planning at county level in Kenya, but also to highlight the centrality of the SDGs in the achievement of sustainable development for all. It is hoped that tools such as this handbook might help bridge the gap between high level policy and visioning, and local level implementation.

4. Reflecting on the mutualistic relationship between SEA and SDGs – Key Findings and Recommendations

The reviews underpinning this paper suggest clear opportunities for mutual gains between SEA and SDGs (Figure 1). They also reveal three key considerations affecting and influencing the mutualistic relationship between SEA and SDGs, and prompt related recommendations to overcome existing shortcomings and boost the achievement of mutual gains between both policy instruments.

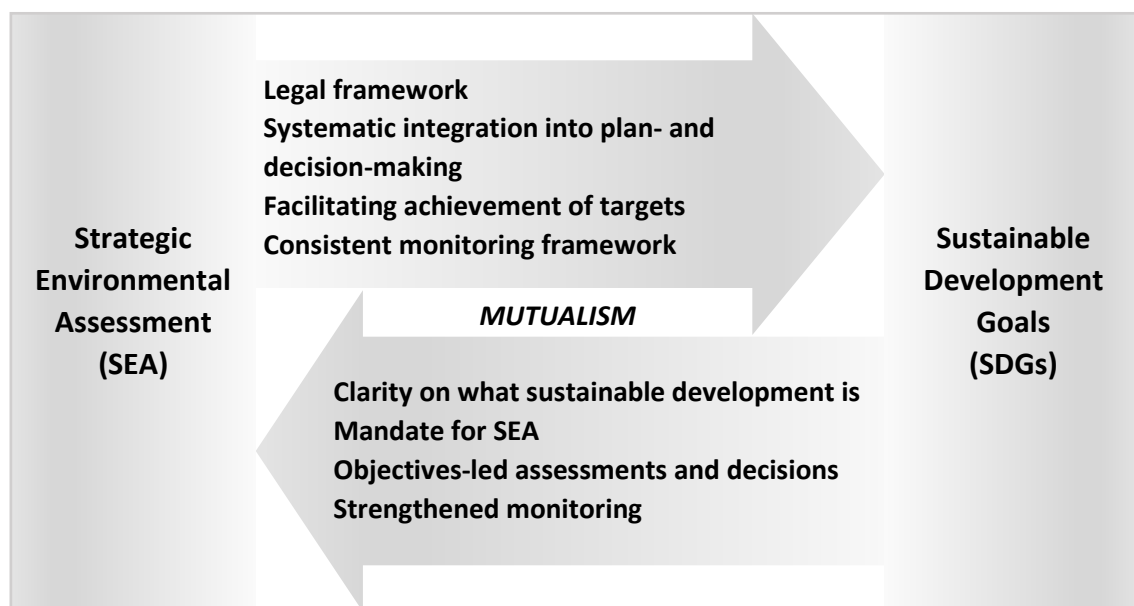


Figure 1. Key benefits of a mutualistic relationship between Strategic Environmental Assessment (SEA) and Sustainable Development Goals (SDGs).

To start with, the reviews of the academic literature and of the selected countries experiences show that, to date, there has been little engagement in practice between SEA and the SDGs, with impact assessment scholars and practitioners looking at the potentials of the two policy instruments independently, rather than from a mutualistic perspective. As presented earlier, there is a vast literature and consensus on SEA's role and potential in delivering sustainable development in general, yet little has been published to date on SEA's role in delivering SDGs and related targets. The current practice reviews also show little evidence of mutualistic relations on the ground. They reveal that the SDGs have either not been fully and systematically embedded into SEA (or, indeed, into plan-making) as reflected particularly in the Ireland and Kenya practice reviews; or, where the SDGs have been embedded in plan-making, this has been done in a procedural and objectives-led manner. This is particularly illustrated by the case of Italy showing how engagement with the SDGs has been limited to the early stages of the SEA process and to ensuring compatibility of sustainable development goals between different policy levels. Similarly, the Kenya experience shows how in the absence of local capacity and monitoring mechanisms, goals or objectives-led approaches to embedding the SDGs in planning can lead to exercises that can be considered rather academic, with limited impact on guiding development in practice, and the formulation of policies, plans and programmes in substance. A possible and plausible recommendation to enhance their embeddedness in SEA is the development and delivery of guidance and training. Such initiatives could help define and operationalise the SDGs and the related six transformations within and through SEA, as well as to clearly define SEA's mandate for engaging with the SDGs. This, in turn, could help strengthen existing commitments towards sustainability and improve the effectiveness of SEA practice across planning levels. To complement such capacity building initiatives and increase the understanding on mutual gains between SEA and SDGs, further research is needed. In particular, case study approaches that are shared through international peer-reviewed literature can help build a shared understanding of what works and what does not work in practice. More theoretical and practice-based knowledge is needed, for example, on what SDGs can be more systematically and meaningfully embedded into SEA and, indeed, on how SEA can be effectively used to mainstream SDG goals into plan-making.

Secondly, there is in principle a role for SEA to play in achieving sustainable development and for raising SDG considerations. This is substantiated by the academic literature's engagement with impact assessment and sustainable development pre-2015 and the more technical engagement post-2015, as well as the practice review findings. However, what this role might be appears to still be unclear. All three practice cases show how despite national commitments towards the SDGs, only selected authorities have engaged with the SDGs, albeit in different ways, suggesting a possible implementation gap (or disconnect) between high level policy and commitment, and operationalisation of this commitment through spatial planning practice, particularly at the local level. This might be due to a lack of awareness and/or communication as shown in the European cases, or to a lack of capacity or integration between policy instruments and decision-making tiers as shown by the review of practice in Kenya. Moreover, inconsistencies are observed in the SEA procedures themselves: in Ireland, SEA fails to apply SDGs as a reference framework, in contrast to Italy, but the procedure serves as a vehicle for their incorporation (e.g. through consultation). In Kenya, the existence of multiple reference frameworks pre- and post-SDGs seems to be stifling or affecting clarity in the means for SDG

implementation in practice. We postulate that a way forward in bridging high level policy instruments and (local) spatial planning practice is through the strengthening of links between SEA and SDGs. Embedding SDGs in SEA, given the general embracement of this global initiative across governments, can strengthen overall influence of SEA findings and recommendations on decision-making. However, for this to happen, and for maximum mutualistic benefits to be achieved, there is also a need for SDGs to give an officially recognised mandate for SEA to engage with and deliver the SDGs – as recognised by the UN Environment Programme (UNEP, 2018). A possible way of fostering this may be through mapping impact assessment criteria to discrete transformations (Sachs et al., 2019). For example, by using SEA as a vehicle to drive (rather than inform) sustainable city plans, food security strategies or climate proof energy development plans. As SDGs are budgeted for and implemented through national instruments, this means that SEA objectives will themselves synergistically benefit from the implementation capacities offered by the SDG imperative within national goals. This would give SEA greater weight on final policy and planning decisions.

Last but not least, and following Lobos and Partidario (2014, p.34), the level of spatial planning SEA engagement with SDGs observed throughout the review may be a result of a broader “weak relationship between the theoretical development of SEA and its practice” hampering the extent to which theoretical advancements in SEA claiming “its potential to help decisions to look forward, change mind-sets and the rationale of decision-making to meet sustainability challenges and enhance societal values” are materialised in practice. The existence of a theory-practice gap has also been identified by Hacking (2019) as one of the main challenges in delivering SDG-focused private-project level assessments. It has also been argued that SEA for sustainability is currently affected by a number of both theoretical and practical considerations (Stinchcombe and Gibson, 2001). For example, in a review of academic research on SEA for sustainability, White and Noble (2013, p. 60) identified “(...) many underlying barriers that challenge SEA for sustainability, including the variable interpretations of the scope of sustainability in SEA; the limited use of assessment criteria directly linked to sustainability objectives; and challenges for decision-makers in operationalizing sustainability in SEA and adapting PPP [plan, programme, policy] development decision-making processes to include sustainability issues”. Similar barriers have been raised within the context of other forms of impact assessment, with challenges about how to address and minimise trade-offs between different themes (Hacking, 2019) and between SDGs (Dorber et al., 2019) remaining. Therefore, and despite the widespread consensus that as a proactive and strategic tool SEA can help drive policy- and decision-making towards sustainability in a just and more equitable way, while integrating both environmental and societal values in decision-arenas dominated by economic agendas (Clark, 2000; Kjørnø and Thissen, 2000; Therivel and Partidário, 1996; Stinchcombe and Gibson, 2001), SEA’s contribution to sustainable development could be considered more coincidental than deliberate (Cashmore et al. 2004). We therefore suggest, borrowing from White and Noble (2013, p. 60), that “to advance SEA for sustainability there is a need to better define the scope of sustainability in SEA; clarify how to operationalize the different approaches to sustainability in SEA, as opposed to simply describing those approaches”. Following Hacking (2019) and Hacking and Guthrie (2008), this would mean ensuring that SEA is comprehensive in the extent to which it encompasses the themes and indicators associated to/with the SDGs; that the themes and SDGs within the SEA are integrated and trade-offs are explored, and in turn minimised; and that the SEA is strategic and aspirational, handling uncertainties in both space and time. If the SDGs and its associated targets together are to provide a robust global framework that enhances clarity on what ‘sustainable development’ is; then there is a need to

explore how SEA can be used to define the terms for operationalising the delivery of the SDGs. This may also mean that SEA practitioners, planners and decision-makers may need to consider broader sustainability considerations such as equality or gender in future decisions.

5. Concluding Remarks and Future Prospects

This paper aimed to explore the mutualistic relationship between SEA and the SDGs, by reflecting on the level of engagement between the two policy instruments portrayed in the published academic literature and in reviews of illustrative case studies. In doing so, it explores SEA progress towards engaging with the SDGs both in theoretical and practical terms, and highlights potential gains and current limitations.

Overall, while the case studies point to SEA fostering integration of environmental and sustainability considerations into spatial plans, as it should, in practice this appears to be done with hesitation. This is possibly the result of ongoing procedural limitations and substantive shortcomings of SEA. And it is particularly reflected in the inconsistencies in procedures and outcomes that the reviewed practice cases showed, but also in SEA's limited engagement with the SDGs beyond highlighting compliance and/or ensuring the compatibility of sustainability objectives at different policy levels. The same degree of hesitation can also be noted in the extent to which impact assessment scholars have engaged with or debated SEA's role in delivering the SDGs. These shortcomings may relate to the broad scope of both sustainability and SEA, a general lack of awareness on the potential for mutual gains between SEA and the SDGs and, in particular, knowledge deficiencies about appropriate ways to facilitate their integration.

Notwithstanding this, there is general consensus that SEA and impact assessment more generally can play an instrumental role in fostering sustainable development, and this paper has reflected upon the opportunities for mutualism between SEA and the SDGs. SEA can support the delivery of SDGs by integrating the relevant considerations pertaining to the goals through setting up, clarifying, or enhancing SDG-relevant targets to be achieved as part of development plans/programmes. In turn, SDGs can better define the scope of sustainability in SEA, and thus address some of the barriers identified by White and Noble (2013, p. 60) and, in this way, provide a more meaningful purpose to SEA. They can strengthen its role in decision-making and giving it more weight, transforming what is currently an information tool into a more influential decision support tool. In this way, both SEA and the SDGs mutually benefit from the interaction (Figure 1). In fact, fostering this symbiotic relationship can lead to greater benefits than the sum of the parts. Using a legal procedure to help deliver on a global initiative can help to better operationalise SEA and to meaningfully embed SDGs into planning decisions, augmenting mutual gains between both policy instruments and, ultimately, resulting in a positive synergetic effect for both society and the environment.

We sustain that if their mutualistic relationship is acknowledged and fostered, SEA can, ultimately, help ensure that development plans/programmes have, at their core, the same goals and, in this way, promote joined up thinking and action towards sustainable development. Despite the current shortcomings noted above and throughout the paper, a degree of progress towards a more proactive incorporation of SDGs into policy-making and development planning can be observed in recent practice. To advance and accelerate this progress further, there are merits in educating impact assessment practitioners and plan-makers to more willingly and proactively integrate SDGs into planning and policy-making, and for impact assessment scholars to follow up and reflect upon the practicalities and outcomes of this integration and verify and

validate the mutualistic relationship between the SDGs and SEA. Bridging the theory-practice gap can only serve to further this partnership, which so far has been widely assumed yet poorly tested, and optimise or maximise the mutual gains of both policy instruments towards a more sustainable future.

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